**PERMIT CHECK LIST**

**The following people have reviewed the permit:**

Reviewing Permitting Engineer: _____

Air Inspector: _____

Air Compliance Manager: _____

Date: August 17, 2012

Source Name: Vanwin Coatings of Virginia, LLC Registration No.: 61425 Id. No.: 51-550-00223

Source Location: 2601-A Trade Street, Chesapeake, VA

Mail Address: 2601-A Trade Street, Chesapeake, VA 23323-3307

Source Status: ___ Greenfield ✓ Currently operating

Source Classification: ___ Minor ✓ SynMinor ___ State Major ___ PSD Major ___ TV Major

Permit Action: An amendment to the facility's August 19, 2008 SOP for the inclusion and operation of two (2) wire flame (thermal) spray coating guns and revised coating media, solvent, thinner, and abrasive blasting media throughputs.

✓ **Inspector Contacted/Consulted**

**Permit Action Program:**

___ NSR ✓ SOP ___ TV ___ Major HAP ___ General

**Permit Action Type:**

___ Exemption

✓ Article 6 Modification ✓ Significant Amendment/Modification

___ Minor Amendment/Modification ___Administrative Amendment ___ Renewal

___ State Major ___ PSD ___ Non-Attainment ___ General Permit

Y (Y/N) Permit Includes All Emission Units at Source.

Y (Y/N) Permit Allows Source to avoid Title V/MACT/etc.

After this permit, source is: ___ Major (A) ___ Minor (B) ✓ Synthetic minor (SM-80 for HAPs)
(PM/PM-10 Pollutants, VOC Pollutants, and HAP pollutants)

**Permit Application Review**

✓ Permit application submitted, or ___ Letter Request
Application Received Date: December 7, 2011
Application Complete Date: August 6, 2012 (change in product throughputs and xylene percent content)
Permit Deadline Date: November 4, 2012

✓ Document Certification Form received

NA Confidential information with sanitized copy.

NA Copy of letter from local official for greenfield, or major modified sources

NA Copy of letter sent to FLM if applicable. (Comments)

NA Notification of Affected State(s)

This permit supersedes permit(s) dated August 19, 2008.

**Regulatory Review**

BACT Determination (check one):

✓ Fabric filter particulate collectors @ 99 % efficiency for the control of PM/PM-10 meets BACT

___ TV/SOP/BACT not applicable.

**Regulatory Review (cont.)**

Y (Y/N) NSPS/MACT/NESHAPS Applicability: If Y, Subpart(s):
WWWWWW MACT applicable if the wire flame spray applicator gun uses cadmium, chromium, lead, manganese, and/or nickel metal feedstocks.
N (Y/N) Existing Rules (9 VAC 5 Chapter 40) Applicability: If Y, Rule(s):
Toxic Pollutants (check one):
___ Exempt, or ✓ in compliance with 9 VAC 5-60-220, or ___ not evaluated
Modeling (check one):
___ Attached (including background monitors), or
___ Copy of approval letter from modeling section,
✓ No modeling required by agency policy
Site Suitability:
✓ Site suitable from an air pollution standpoint, inspection date: September 19, 2011.
N Calculation sheet(s) attached
N (Y/N) NSR Netting
N (Y/N) (CAM) Compliance Assurance Monitoring Applicable
Permit includes: ___ Stack Testing ___ CEM ___ VEE by source

**Public Participation**

Y (Y/N) Public Noticed. If yes, Public Notice Date:
___(Y/N) Public Notice Comments. If yes, number and nature of comments:
N (Y/N) Public Hearing. If yes, Public Hearing Date:

**EPA Review**

Y (Y/N) EPA Review. If yes, Date proposed permit sent to EPA_____.
___(Y/N) EPA Comments. If yes, give a brief summary_____.

**Other Comments and Final Recommendations (attach memo or list below):**

**Comments**: In response to a DEQ Request for Corrective Action (RCA) issued on September 23, 2011, Vanwin Coatings of Virginia, LLC (Source) submitted a Form 7 air permit application on December 7, 2011for the use of an "*unpermitted*" flame (thermal) spray coating gun (see attached RCA dated September 20, 2011). Just before the public comment period for the amended SOP was to expire on March 19, 2012, the Source requested that the application be withdrawn due to reconsiderations that necessitated further amendments to the permit beyond those originally submitted in the December 7, 2011 application. These additional changes included requested increases in the throughputs for coating media, solvents, thinners, and blasting abrasives, revised definitions for high and low VOC coatings, and the addition of a second flame spray gun.

Thermal spraying (also referred to as metal spraying or flame spraying) is a surface treatment process which enables different types of feedstock materials to be applied to various substrates. The process involves a coating material in the form of either a powder, wire, or rod of metallic or non-metallic (ceramics and plastics) material that is melted by a heat source into a molten liquefied state and then sprayed onto a substrate by compressed air. The heat source is either electrical or chemical (gas combustion). Thermal spraying processes can be grouped into three major categories: plasma-arc spray, flame spray, and electric wire-arc spray.

*Combustion Wire Flame Spray Operations*: With this spraying process, a specially designed spray applicator gun having a nozzle (similar to a welder's heating torch) which burns oxyacetylene at flame temperatures up to 5500°F is used. A lower temperature propane flame can be used for melting metals such as aluminum and zinc

**Regulatory Review (cont.)**

wire feedstocks. The basic components of a flame spray system include the flame spray gun, feedstock material and feeding mechanism/controller, oxygen and fuel gases with flow meters and pressure regulators, and an air compressor and regulator. The combustion wire feedstock is fed through the center of the nozzle into the flame where it is melted. At the same time compressed air is concentrated around the flame atomizing the molten material into fine spherical particles and propelling the particles at high velocity onto the substrate. The molten metal particles solidify as they adhere to the substrate surface forming an applied metal layer with a thickness dependent upon the amount of molten metal particles applied. Zinc and aluminum wire feedstock are used for ant-corrosion cathodic coating on steel.

**Article 6 Permit Applicability Determination:**

Permit applicability for the two (2) unpermitted wire flame spray guns was determined by calculating the uncontrolled potential emissions (PTE) of concern at 8,760 hours per year. Normally, for sprayed coating media applications the pollutants of concern are particulates (PM/PM-10) and VOCs (including HAPs). However, according to "*Thermal Spraying Technology and Applications*" Course No: T04-002; Continuing Education and Development, Inc. (Page 20) EM1110-2-3401 29 Jan 99. There are "***no VOC emissions*** *associated with the use of thermal spray coatings*"; therefore, the pollutants of concern are PM and PM-10. Particulate emission calculations were determined as follows:

Emission Units: One (1) Series 12E (old model wire flame spray gun) and one (1) Series 16E (new model wire flame spray gun), each having the same application rate.
Throughput per applicator gun: 12 pounds/hour of aluminum wire or 32 pounds/hour of zinc wire used (not used in combination)
Transfer efficiency: Based on the deposit efficiency for zinc wire (worst-case scenario) as listed in the following table taken from the above referenced course:

Table 7-2
Deposit Efficiency of Thermal Spray Processes

| Material | Wire Flame Spray percent | Powder Flame Spray percent | Arc Spray percent |
|---|---|---|---|
| Zinc | 65-70 | 85-90 | 60-65 |
| Aluminum | 80-85 | 85-90 | 70-75 |
| 85-15 Zn-Al | 85-90 | N/A | 70-75 |

Pollution Control: Metal particulates will be controlled by dry fabric filters at 99% control efficiency.

**Wire Flame Spray Guns Uncontrolled Emissions at 8,760 hours/year:**

PM/PM-10 emissions = (32 lbs/hr) x (100% - 65%) x (8,760 hrs/yr) x (1 ton/2000 lbs) = 49.1 tons/yr.

PM/PM-10 emissions for two (2) guns = 2 x 49.1 tons/yr = **98.2 tons/yr uncontrolled PM/PM-10.**

Since the uncontrolled emission rates for the two (2) wire flame spray guns are above the Article 6 PM and PM-10 exemption levels for existing sources (9 VAC 5-80-1320 D) of 15 tons per year and 10 tons per year, respectively, **a permit is necessary**.

**Regulatory Review (cont.)**

**Wire Flame Spray Guns Controlled Emissions:**

PM/PM-10 hourly emissions = (32 lbs/hr) x (100% - 65%) x (100% - 99%) = 0.112 lbs/hr x 2 = **0.224 lbs/hr.**

PM/PM-10 annual emissions = (0.224 lbs/hr) x (8,760 hrs/yr) x (1 ton/2000 lbs) = **0.98 tons/yr.**

**BACT Applicability Determination:**

BACT applicability is determined in the same manner as is permit applicability; therefore, if permit applicability is triggered, then BACT applicability is also triggered. As such, BACT is applicable to the wire flame spray guns. The wire flame spray coating operations will be conducted in one of the abrasive blasting rooms BR-2, BR-3, or BR-4 that utilizes cartridge or fabric filter dust collectors to control particulates emissions in order to meet BACT requirements for emissions and opacity.

**Abrasive Blasting Media Throughput Change:**

The Source requested a change to the throughput of abrasive blasting media from the previous permitted 900 tons per year to 1,200 tons per year, resulting in a 300 ton per year net increase. The abrasive blasting rates of the equipment remained unchanged from the 2003 permit, hence the hourly PM and PM-10 emissions were the same. Annual PM and PM-10 emissions rates were increased by a factor of 1.33 (i.e.: 1,200/900) from the previous 2008 permitted emissions, resulting in PM and PM-10 emissions of 3.5 tons per year and 1.8 tons per year, respectively.

The Source also asked that certain discrepancies between how the blast rooms were referenced in the permit and the facility's on-site records be corrected. The following revisions to the blasting room nomenclature in the amended permit were made:

| Previous 2008 SOP Designation | Amended 2012 SOP Designation |
|---|---|
| BR-1 | BR-1 |
| BR-2 | BR-3 ($AlO_2$) |
| BR-3 | BR-4 (Glass bead) |
| BR-4 | BR-2 (Steel Shot) |

**Requested Changes To Throughputs For Coating Media, Cleaning Solvents, and Thinners**

The SOP was also revised to reflect several requested throughput changes to the facility's coating media operations. Changes to the permitted throughputs for high VOC coating products, low VOC coating products, VOC-containing cleaning solvents for coating media application clean-ups, and coating media thinners were made in the SOP. In addition to the throughput increases, the Source requested that the cleaning solvent throughput be subdivided into three (3) separate categories – Xylene-based, Lacquer Thinner, and MEK, each with a permitted throughput limit, as well as the coating media thinners be subdivided into two (2) separate categories: Xylene-based and Other Thinners, again, each having its own throughput limit in the SOP. The Source also revised the definitions for high and low VOC coatings in the permit to that of VOCs between 2.5 and 7.0 lbs/gal for high VOC coating products and VOCs less than 2.5 lbs/gal for low VOC coating products. VOC and HAP emissions associated with these throughputs were calculated and submitted by the Source as part of the Form 7 application. The initial submitted VOC and HAP emission calculations were later re-calculated by the Source to reflect a maximum xylene content (by weight) of 90% for the Xylene-based thinner and cleaning solvent products. Based on this xylene content change, it was necessary to reduce the throughput of certain xylene-based products (cleaning solvents, thinners, and high VOC coatings) to restrict xylene emissions

**Regulatory Review (cont.)**

to 9.4 tons per year and keep the facility out of major source status for HAPs. For total combined HAP emissions, the revised emissions were determined to be 14.7 tons per year as based on the three highest (3) HAPs: xylene, toluene, and ethyl benzene.

**Controlled Emissions based on Source Requested Throughputs (Permitted):**

As previously stated above, the Source requested coating media changes, one of which involved the high and low VOC coating media products. This change in part, necessitated the VOC and PM-10 emissions be re-calculated. VOC emissions were re-calculated by the Source (*see attached revised spreadsheet*); PM-10 emissions were calculated by DEQ as they were not included as part of the Source's calculations. Based on a conservative (worst-case) product weight of 12.5 lbs/gal for both the high and low VOC coatings (supplied in Source's VOC calculations), a combined coating media throughput of 5,400 gals/yr, use of four (4) high volume-low pressure (HVLP) spray guns, each rated at 3 gallons/hr (65% application efficiency), a paint booth particulate control efficiency of 99%, and assuming a solids content of 50% for all applied coatings, controlled PM-10 emissions were determined as follows:

Maximum Hourly $PM_{10}$ = (12 gals/hr) x (6.25 lbs solids/gal) x (1 - 0.65) x (1 – 0.99) = **0.26 lbs $PM_{10}$/hr**

Maximum Annual $PM_{10}$ = (5,400 gals/yr) x (6.25 lbs solids/gal) x (1 - 0.65) x (1 – 0.99) x (1 ton/2,000 lbs) = **0.06 tons $PM_{10}$/yr**

Emission limits for pollutants with annual controlled emissions of less than 0.5 ton per year are not included in permits per DEQ permitting guidelines; as such, these PM-10 emissions from the spray painting operations were not listed in the permit.

**MACT Subpart WWWWWW Applicability:**

On July 1, 2008, EPA published 40 CFR Part 63, Subpart WWWWWW for plating and polishing area sources. Plating and polishing processes that are subject to this area source MACT are those "*processes performed at an affected plating and polishing facility that uses or has the potential to emit*" compounds of any of the following metal HAPs (MHAPs): cadmium, chromium, lead, manganese, and nickel. This includes electrolytic and non-electrolytic plating and coating processes (e.g., electroplating, conversion coating, sealing, and phosphating), electroforming, dry mechanical polishing, and **thermal spraying processes**. The MACT does not apply to any plating and polishing processes that use metals other than cadmium, chromium, lead, manganese, and nickel or to thermal spraying processes to repair surfaces. A condition has been placed in the SOP to this effect.

**Permit Processing:**

Because this permit action required changes to the case-by-case determination of emission limits in the previous permit, this action is being processed as a significant amendment to the August 19, 2008 SOP and a 30-day public comment period will be required. The permitting program type was changed in the previous 2008 permit action from that of an NSR to an SOP to keep the Source as a synthetic minor. Because of the 9.4 ton per year emission limit for the single highest HAP in the permit, the Source will be classified as a SM-80.

**Regulatory Review (cont.)**

**Final Recommendation**: Recommend Approval.

Environmental Engineer's Signature: _____

Air Permit Manager's Signature: _____

# COMMONWEALTH of VIRGINIA

*DEPARTMENT OF ENVIRONMENTAL QUALITY*
TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2009
www.deq.virginia.gov

Doug Domenech
Secretary of Natural Resources

David K. Paylor
Director

Maria R. Nold
Regional Director


October xx, 2012

Mr. James A. Whitham
President
Vanwin Coatings of Virginia, LLC
2601-A Trade Street
P.O. Box 6859
Chesapeake, Virginia 23323

Location: City of Chesapeake
**Registration Number: 61425**

Dear Mr. Whitham:

Attached is a significant amendment to your state operating permit to operate an abrasive metal blasting and metal coating facility in accordance with the provisions of the Virginia Regulations for the Control and Abatement of Air Pollution. This permit supersedes your permit dated August 19, 2008.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and/or civil charges. Please read all permit conditions carefully.

The Department of Environmental Quality (DEQ) deemed the application complete on August 6, 2012 and has determined that the application meets the requirements of 9 VAC 5-80-990 A for a significant amendment to a state operating permit. The Department solicited written public comments by placing a newspaper advertisement in the Virginian Pilot on {insert date of publication}. The required comment period provided by 9 VAC 5-80-1170 D expired on {insert date comment period ended}.

This permit approval to operate shall not relieve Vanwin Coatings of Virginia, LLC of the responsibility to comply with all other local, state, and federal permit regulations.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code 5-170-200 provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this case decision notice was mailed or delivered to you. 9 VAC 5-170-200 provides that you

may request direct consideration of the decision by the Board if the Director of the DEQ made the decision. Please consult the relevant regulations for additional requirements for such requests.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal of this decision by filing a Notice of Appeal with:

David K. Paylor, Director
Department of Environmental Quality
P. O. Box 1105
Richmond, VA 23218-1105

If this permit was delivered to you by mail, three days are added to the thirty-day period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for information on the required content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

If you have any questions concerning this permit, please contact the DEQ Tidewater Regional Office at (757) 518-2006.

Sincerely,

Troy D. Breathwaite
Regional Air Permits Manager

TDB/JIM/61425_Vanwin Coatings of VA_SOPsigamd 2012 Revised.docx

Attachments: Permit
MACT, Subpart WWWWWW

The above referenced MACT Regulation can be retrieved electronically at:
**http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?sid=27d0dad4dd3d4c1969aad205b798e315&c=ecfr&tpl=/ecfrbrowse/Title40/40tab_02.tpl**

cc: Manager, Data Analysis (electronic file submission)
Manager/Inspector, Air Compliance

# *COMMONWEALTH of VIRGINIA*

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Doug Domenech
Secretary of Natural Resources

David K. Paylor
Director

Maria R. Nold
Regional Director


## STATIONARY SOURCE PERMIT TO MODIFY AND OPERATE

This permit supersedes replaces your permit dated August 19, 2008.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Vanwin Coatings of Virginia, LLC
2601-A Trade Street
Chesapeake, Virginia 23323
**Registration Number: 61425**

is authorized to operate

an abrasive metal blasting and metal coating facility

located at

2601-A Trade Street
Chesapeake, Virginia

in accordance with the Conditions of this permit.

Approved on DRAFT PERMIT.

_____
Maria R. Nold

Permit consists of 9 pages.
Permit Conditions 1 to 29.

## INTRODUCTION

1. This permit approval is based on the permit applications dated June 29, 2001, December 27, 2007, and December 6, 2011, including amendment information dated August 6, 2001, September 7, 2001, February 5, 2002, March 22, 2002, January 8, 2003, November 17, 2003, February 6, 2008, April 7, 2008, January 3, 2012, May 9, 2012, July 17, 2012, and August 6, 2012. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.

   Words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-10 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses ( ) after each condition.

   Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

   The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

## PROCESS REQUIREMENTS

2. **Equipment List** - Equipment at this facility consists of the following:

| **Equipment installed by this permit:** | | | |
|---|---|---|---|
| **Reference No.** | **Equipment Description** | **Rated Capacity** | **Federal Requirements** |
| FS-2 | One (1) - Wire Flame Spray Gun using zinc and aluminum wire feedstocks | Zn wire -32 lbs/hr<br>Al wire - 12 lbs/hr | 40 CFR 63, Subpart WWWWWW **only if** using metal wires containing cadmium, chromium, lead, manganese, or nickel compounds |

| **Equipment permitted prior to the date of this permit** | | | | |
|---|---|---|---|---|
| **Reference No.** | **Equipment Description** | **Rated Capacity** | **Federal Requirements** | **Original Permit Date** |
| BR-1 | One (1) - Large blast room with water curtain (DC-1) | 12,000 lbs/hr | N/A | 8/19/2008 SOP |
| BR-2 | One (1) - Steel shot blasting room with dust collector | 1,150 lbs/hr | N/A | 3/13/2003 NSR |
| BR-3 | One (1) - Steel shot/alumina oxide blasting room with dust collector (DC-2) | 1,150 lbs/hr | N/A | 3/13/2003 NSR |
| BR-4 | One (1) - Glass bead blasting room with dust collector or water curtain (DC-1) | 1,150 lbs/hr | N/A | 3/13/2003 NSR |
| PB-1 - PB-4 | Four (4) - Paint booths with fabric filters | 3 gals/hr (each) | N/A | 3/13/2003 NSR |

| Equipment installed prior to the date of this permit | | | | |
|---|---|---|---|---|
| **Reference No.** | **Equipment Description** | **Rated Capacity** | **Federal Requirements** | **Installation Date** |
| FS-1 | Metco Type 12E Model 695 Wire Flame Spray Gun using zinc and aluminum wire feedstocks | Zn wire -32 lbs/hr<br>Al wire – 12 lbs/hr | 40 CFR 63, Subpart WWWWWW **only if** using metal wires containing cadmium, chromium, lead, manganese, or nickel compounds | 1986 |

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit.
(9 VAC 5-80-850)

3. **Emission Controls -** Particulate emissions (PM/PM-10) from the blastpot operations in abrasive blasting room BR-1 shall be controlled by the use of only non-silica abrasives and operation of the water curtain dust collector (DC-1) and by partial enclosure when blasting. Partial enclosure of abrasive blasting room BR-1 shall be maintained by use of vertical plastic strips and a room-air induction fan system of sufficient capacity to maintain inward air flow across the strips when blasting. Water curtain dust collector (DC-1) shall be provided with adequate access for inspection. Vertical plastic strips shall be inspected at least weekly and replaced as needed with spare strips stored on site, to maintain adequate air velocity across the curtain face during blasting. The water curtain dust collector (DC-1) and air induction fan system shall be in operation when the abrasive blasting room BR-1 is operating.
(9 VAC 5-80-850 and 9 VAC 5-50-260)

4. **Emission Controls** - Particulate emissions (PM/PM-10) from the abrasive blasting rooms BR-2, BR-3, and BR-4 shall be controlled by the use of only non-silica abrasives and by cartridge or fabric filter dust collectors. Abrasive blasting room BR-4 may alternatively use the water curtain dust collector (DC-1). Abrasive blasting room doors shall be closed whenever blasting is conducted. The dust collectors shall be provided with adequate access for inspection and shall be in operation whenever the associated abrasive blasting room is in use.
(9 VAC 5-80-850 and 9 VAC 5-50-260)

5. **Emission Controls** - Particulate emissions (PM/PM-10) from paint booths PB-1, PB-2, PB-3, and PB-4 shall be controlled by the use of fabric filters. The filters shall be provided with adequate access for inspection and shall be in operation whenever the associated paint booth is in use.
(9 VAC 5-80-850 and 9 VAC 5-50-260)

6. **Emission Controls** - Particulate emissions (PM/PM-10) from the flame (thermal) spray coating operations (FS-1 and FS-2) shall be controlled by conducting the operations in one of the abrasive blasting rooms BR-2, BR-3, or BR-4 that utilizes cartridge or fabric filter dust collectors. The filter dust collector device shall be in use whenever flame spraying operations are being conducted in the associated abrasive blasting room.
(9 VAC 5-80-850 and 9 VAC 5-50-260)

7. **VOC Work Practice Standards** - At all times the disposal of volatile organic compounds (VOCs) shall be accomplished by taking measures, to the extent practicable, consistent with air pollution control practices for minimizing emissions. Volatile organic compounds shall not be intentionally spilled, discarded in sewers which are not connected to a treatment plant, or stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution practices for minimizing emissions.
(9 VAC 5-50-20 F and 9 VAC 5-80-850)

8. **Monitoring Devices** - The dust collectors used to control particulate emissions (PM/PM-10) from abrasive blasting rooms BR-2, BR-3, and BR-4 shall be equipped with devices to continuously measure the differential pressure drop across the filters. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the control device is operating.
(9 VAC 5-80-850 and 9 VAC 5-50-260)

9. **Monitoring Device Observation** - To ensure good performance, the control monitoring devices used to continuously measure differential pressure drop across the filters in abrasive blasting rooms BR-2, BR-3, and BR-4 shall be observed by the permittee with a frequency of not less than once per week. The permittee shall keep a written record log of the observations from the control monitoring device, including an acceptable range or maximum, and the date, time, differential pressure and name of observer.
(9 VAC 5-80-850)

## OPERATING LIMITATIONS

10. **Throughput** - The combined throughput of non-silica abrasive media for use in abrasive blasting rooms BR-1, BR-2, BR-3, and BR-4 shall not exceed 1,200 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-850)

11. **Throughput** - The throughput of cleaning solvents, excluding any non VOC-containing solvents and less waste and/or recyclables, used for paint clean-up shall not exceed the following:

    a. Xylene-based*: 1,400 gallons/yr

    b. Lacquer Thinner: 1,800 gallons/yr

    c. Methyl Ethyl Ketone (MEK): 2,000 gallons/yr

    * Assumes solvent is 90% xylene by weight.

    Throughput usage of each cleaning solvent shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
    (9 VAC 5-80-850)

12. **Throughput** - The throughput of coating media thinners, less waste (or recyclables) used in paint booths PB-1, PB-2, PB-3, and PB-4 shall not exceed the following:

    a. Xylene-based thinner*: 540 gallons/ yr

    b. Other thinners: 275 gallons/yr

    * Assumes thinner is 90% xylene by weight.

    Throughput usage for each of the thinner groups shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
    (9 VAC 5-80-850)

13. **Throughput** - The combined throughput of all high VOC coatings, less waste (or recyclables) used in paint booths PB-1, PB-2, PB-3, and PB-4 shall not exceed 2,000 gallons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. High VOC coatings are defined as coating media products containing VOCs between 2.5 and 7.0 pounds per gallon of product.
    (9 VAC 5-80-850)

14. **Throughput** - The combined throughput of all low VOC coatings, less waste (or recyclables) used in paint booths PB-1, PB-2, PB-3, and PB-4 shall not exceed 3,400 gallons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. Low VOC coatings are defined as coating media products containing VOCs less than 2.5 pounds per gallon of product.
    (9 VAC 5-80-850)

15. **Wire Flame Spray Coating Operations** - Operating hours involving use of the wire flame (thermal) spray coating equipment (FS-1 and FS-2) are not limited (up to 8,760 hours per year permitted for each flame spray gun). However, the wire flame spray coating operations shall be subject to all applicable National Emission Standards for Hazardous Air Pollutants for Source Categories for *Plating and Polishing Operations* (40 CFR Part 63, Subpart WWWWWW), **if the flame spraying process involves the use of metal wire feedstocks containing any of the following: cadmium, chromium, lead, manganese, and/or nickel compounds**. If operated under such conditions, the permittee shall refer to the most current version of 40 CFR Part 63, Subpart WWWWWW for additional or revised requirements not included in the permit for the operation of the equipment.
    (9 VAC 5-80-850 and 40 CFR Part 63, Subpart WWWWWW)

## EMISSION LIMITS

16. **Facility wide Process Emission Limits** - Total emissions from the abrasive metal blasting and metal coating facility shall not exceed the limits specified below:

| | |
|---|---|
| Particulate Matter (PM) | 4.5 tons/yr |
| PM-10 | 2.8 tons/yr |
| Volatile Organic Compounds | 15.0 tons/yr |
| Hazardous Air Pollutants (as VOCs): | |
| Single Highest HAP (Xylene) | 9.4 tons/yr |
| Total combined HAPs | 14.7 tons/yr |

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of these operating limits may be considered credible evidence of the exceedance of the above emission limits. Compliance with these emission limits may be determined as stated in Conditions 3 - 15, 17, and 19. Compliance with xylene emission limits shall be determined as stated in Conditions 11 - 14. (9 VAC 5-80-850 and 9 VAC 5-50-260)

17. **Visible Emission Limit** - Visible emissions from the control devices for abrasive blasting rooms BR-1 through BR-4 and the vents for paint booths PB-1 through PB-4 shall not exceed five (5) percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-850, 9 VAC 5-50-80, and 9 VAC 5-50-260)

18. **Emissions Testing** - The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.
(9 VAC 5-80-880 and 9 VAC 5-80-850)

## RECORDS

19. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the DEQ, Tidewater Regional Office. These records shall include, but are not limited to:

    a. Annual throughput of total non-silica abrasive media (in tons) used in abrasive blasting rooms BR-1, BR-2, BR-3, and BR-4, combined, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

    b. Annual unrecovered consumption (in gallons) of high VOC coating media listed in Condition 13, combined, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

c. Annual unrecovered consumption (in gallons) of low VOC coating media listed in Condition 14, combined, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

d. Annual unrecovered consumption (in gallons) for each coating media thinner group listed in Condition 12 of the permit,, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

e. Annual unrecovered consumption (in gallons) for each cleaning solvent group listed in Condition 11 of the permit, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

f. Material Safety Data Sheets (MSDS) or other vendor information as approved by DEQ, showing VOC content, toxic compound content, HAP content, water content, and solids content for each coating, thinner, and coating clean-up solvent product used;

g. Control device monitoring records as required in Condition 9 of the permit; and

h. Records for the metal feedstocks containing cadmium, chromium, lead, manganese, and/or nickel compounds used in the wire flame spray coating operations FS-1 and FS-2.

These records shall be available for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-850 and 9 VAC 5-50-50)

## NOTIFICATIONS

20. **Initial Notifications** - The permittee shall furnish written notification to the DEQ, Tidewater Regional Office (Air Compliance) of:

    a. The actual date on which installation of the wire flame spray coating equipment FS-2 commenced within 30 calendar days after such date; and

    b. The actual start-up date of the wire flame spray coating equipment FS-2 within 15 calendar days after such date.

    (9 VAC 5-50-50 and 9 VAC 5-80-850)

## GENERAL CONDITIONS

21. **Permit Invalidation** - Portions of this permit to install the wire flame spray coating equipment FS-2 shall become invalid, unless an extension is granted by the DEQ, if:

    a. A program of continuous construction, reconstruction, or modification is not commenced within the latest of the following:

        i. Eighteen (18) months from the date of this permit;

        ii. Nine (9) months from the date that the last permit or other authorization was issued from any other governmental entity;

iii. Nine (9) months from the date of the last resolution of any litigation concerning any such permits or authorization; or

b. A program of construction, reconstruction, or modification is discontinued for a period of eighteen (18) months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of a phased construction project.

(9 VAC 5-80-1010 and 9 VAC 5-80-850)

22. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

    a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

    b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

    c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

    d. To sample or test at reasonable times.

    For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
    (9 VAC 5-170-130 and 9 VAC 5-80-850)

23. **Record of Malfunctions** - The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one (1) hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record.
    (9 VAC 5-20-180 J and 9 VAC 5-80-850)

24. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the DEQ Tidewater Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one (1) hour, by facsimile transmission, telephone, or electronic mail (e-mail). Such notification shall be made as soon as practicable but no later than four (4) daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two (2) weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the DEQ Tidewater Regional Office in writing.
    (9 VAC 5-20-180 C and 9 VAC 5-80-850)

25. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
    (9 VAC 5-20-180 I and 9 VAC 5-80-850)

26. **Maintenance/Operating Procedures** - At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.
(9 VAC 5-50-20 E and 9 VAC 5-80-850)

27. **Permit Suspension/Revocation** - This permit may be revoked if the permittee:

    a. Knowingly makes material misstatements in the permit application or any amendments to it;

    b. Fails to comply with the terms or conditions of this permit;

    c. Fails to comply with any emission standards applicable to a permitted emissions unit;

    d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;

    e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time that an application for this permit is submitted; or

    f. Fails to comply with the applicable provisions of Articles 6, 8 and 9 of 9 VAC 5 Chapter 80.

    (9 VAC 5-80-1010)

28. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Air Permits Manager at the DEQ Tidewater Regional Office of the ownership change within 30 calendar days of the transfer.
(9 VAC 5-80-940)

29. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-860 D)